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APPLICATION NO U.S. DEPARTMENT OF COMMERCE ATTY. DOCKET NO. FORM PTO-1449 09/692.945 PATENT AND TRADEMARK OFFICE 201130.407/PL08243.001 (REV.7-80) APPLICANTS FEB 2 2 2b01 Nobuyuki Itoh and W. Michael Kavanaugh INFORMATION DISCLOSURE STATEMENT GROUP ART UNECH CENTER 1600/2900 (Use several sheets if necessary) FILING DATE October 20, 2000 1645 U.S. PATENT DOCUMENTS FILING DATE \*EXAMINER DOCUMENT NUMBER DATE NAME CLASS **SUBCLASS** IF APPROPRIATE INITIAL 435 69.7 06/16/98 Ballance et al JA & 5,766,883 AA Fleer et al. 03/02/99 435 69.7 5,876,969 AB AR. 08/29/00 Hu et al. 514 12 6,110,893 AC FOREIGN PATENT DOCUMENTS TRANSLATION DOCUMENT COUNTRY DATE FEB 2 0 2001 NUMBER YES WIPO ~ Z) R WO 97/24445 07/10/97 AD OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. Aaronson et al., "Keratinocyte Growth Factor: A Fibroblast Growth Factor Family ΑE al R Member With Unusual Target Cell Specificity," Annals of the New York Academy of Sciences 638:62-77, 1991. Akashi, "Synonymous Codon Usage in Drosophila Melanogaster: Natural Selection and ΑF Translational Accuracy," Genetics 136(3):927-935, March 1994. Baird and Klagsbrun, "The Fibroblast Growth Factor Family," Cancer Cells 3(6):239-243, AG June 1991. Baloh et al., "Artemin, a Novel Member of the GDNF Ligand Family, Supports Peripheral AH and Central Neurons and Signals through the GFRa 3-RET Receptor Complex," Neuron 21:1291-1302, December 1998. Belluardo et al., "Comparative Localization of Fibroblast Growth Factor Receptor-1, -2, ΑI and -3 mRNAs in the Rat Brain: In Situ Hybridization Analysis," J. Comparative Neurology *379*:226-246, 1997. Blunt et al., "Overlapping Expression and Redundant Activation of Mesenchymal Fibroblast Growth Factor (FGF) Receptors by Alternatively Spliced FGF-8 Ligands," The Journal of Biological Chemistry 272(6):3733-3738, February 7, 1997. Bracci-Laudiero et al., "Increased Levels of NGF in Sera of Systemic Lupus Erythematosus ΑK Patients," NeuroReport 4(5):563-565, May 1993. Burgess and Maciag, "The Heparin-Binding (Fibroblast) Growth Factor Family of AL Proteins," Annu. Rev. Biochem. 58:575-606, 1989. **DATE CONSIDERED EXAMINER** 9/22/3 Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

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	BD		Coulier et al., "The FGF6 Gene Within the FGF Multigene Family," Annals of the New York Academy of Sciences 638:53-61, 1991.								
	BE	Expressed Ir	Crossley and Martin, "The Mouse <i>Fgf8</i> Gene Encodes a Family of Polypeptides and Is Expressed In Regions That Direct Outgrowth and Patterning in the Developing Embryo," <i>Development 121</i> :439-451, 1995.								
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	BI	Dunnett and	Björklund, '	'Prospects i	for New Restorative an upplemental):A32-A39				reatments in		
	ВЈ	1 1		_	of Acidic Fibroblast Gre-364, September 1991.		Facto	or in Moto	r and		
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3)	Friden et al., "Blood-Brain Barrier Penetration and in Vivo Activity of an NGF Conjugate," Science 259:373-377, January 15, 1993.											
	C	D	1	Gemel et al., "Short Communication: Structure and Sequence of Human FGF8," Genomics 35(1):253-257, July 1, 1996.								
	c	E		Ghosh et al., "Molecular Cloning and Characterication of Human <i>FGF</i> 8 Alternative Messenger RNA Forms," <i>Cell Growth &amp; Differentiation</i> 7(10):1425-1434, October 1996.								
	C	F	Goldfarb et a New York Ac	· •		ssible Functions of the 38-52, 1991.	FGF-5	5 Gene	e," Annal	s of the	е	
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4R	Lin et al., "GDNF: A Glial Cell Line—Derived Neurotrophic Factor for Midbrain Dopaminergic Neurons," Science 260:1130-1132, May 21, 1993.										
	DD	Divergence E	Lloyd and Sharp, "Evolution of Codon Usage Patterns: The Extent and Nature of Divergence Between Candida Albicans and Saccharomyces Cerevisiae," Nucleic Acids Research 20(20):5289-5295, 1992.								
	DE	Lopez et al., " Ischemia: A	Lopez et al., "Basic Fibroblast Growth Factor in a Porcine Model of Chronic Myocardial Ischemia: A Comparison of Angiographic, Echocardiographic and Coronary Flow Parameters," <i>The J. of Pharmacology and Experimental Therapeutics 282</i> (1):385-390, July								
	DF	Malumbres e	t al., "Codoi	n Preferenc	e in Corynebacteria," (	Gene l	<i>34</i> :15-24,	199	3.		
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		EF		Ohuchi et al. the Chick Lin	Ohuchi et al., "The Mesenchymal Factor, FGF10, Initiates and Maintains the Outgrowth of the Chick Limb Bud Through Interaction With FGF8, An Apical Ectodermal Factor," <i>Development 124</i> :2235-2244, 1997.									
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SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

APPLICANTS

Nobuyuki Itoh and W. Michael Kavanaugh

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